Prevention of Football Injuries

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Football (soccer) is certainly one of the most popular sports worldwide. It has been reported that more than 200,000 professional and 240 million amateur players play football.[1] Compared with other sports, football is a vigorous sporting activity with relatively high incidence of injury.[2-5] To decrease the number of injuries, prevent early retirement, and provide a healthy and safe environment for players, preventive programs are highly recommended. For designing preventive programs, information about the incidence and risk of injury are required.[5]

The incidence, pattern and characteristics of football injuries such as injury type and nature, anatomical sites of injury, severity, causes, and mechanisms and also biomechanical, anthropometrical and physiological aspects of football players have been investigated and described in previous studies.[6-30] For example, a mean of 17-24 injuries per 1000 playing hours have been reported for football players[2-4] and every male player generally encountered about one injury each year.[30,31] Most of the epidemiological studies pointed out that the number of injuries during competition is about 4-6 times more than that in training.[1,32,33] Sprains of the ankle and knee and strains of the hamstring and groin muscles are known as the four dominating injury types and account for more than 50% of all football injuries.[34] Over 65% of football injuries are classified as minor, 25% moderate, and 10% serious.[35] Approximately 50% of the football injuries occur from direct player-to-player contact, including collisions, tackling and being tackled, while the rest (non-contact) happen during the performance of actions such as running, shooting, turning, and heading.[36,5] While most investigators have illustrated that the occurrence of injury did not influenced by playing position,[2,3] Hawkins and Fuller[36] and Zarei et al[23] reported that defenders had a greater risk of injury than other playing positions. Most injuries occur in the final 15 minutes of each half, and the risk of injury in the second half is greater than the first half.[36-38]

Prevention of injury would maintain the health of player, minimize costs, and also enhance performance.[39] Only a few studies have been conducted on football injury prevention. Engebretsen and Bahr[40] reported that out of 10,691 papers published on athletic injury, there were only 6 randomized controlled trials on sports injury prevention. Regarding the published papers on prevention of injury in football in the last three decades, no more than 15 papers have been published on injury prevention. The first injury prevention study was conducted by Ekstrand et al 28 years ago.[41] They found a significant reduction in the number of injuries through a 7-part prevention program. Two years later, Tropp et al[42] following a balance training program observed a significantly lower number of ankle sprains in football players. The positive preventive effect of orthoses, proprioceptive and eccentric strength training programs on prevention of ankle, knee and hamstring injuries were reported.[43-46] Caraffa et al[43] found a lower incidence of ACL injuries in semi-professional and amateur football players following a special proprioceptive training program. Heidt et al[47] planned an injury prevention program (preseason conditioning program) in female players and observed lower incidence of injury (14%) compare to the untrained group. Junge et al[48]

showed 21% fewer injuries in male youth football players following an interventional programs educating and supervising players and coaches.

Consequently, injury prevention programs in football will definitely need to be developed. By conducting more studies about the risk factors and associated roles, researchers will be able to provide sound advices for players, team medical staff, coach, and referees may help them to make a safe environment for football players. It seems that the co-operation of important governmental and international organizations such as FIFA, UEFA, FA, IOC and special football federations of each country is vital. Studies on the effectiveness of injury prevention and interventional programs should be considered and expected. Since information on effectiveness of intervention and also data on extrinsic and intrinsic risk factors in football are very beneficial for minimizing injury, they should be top priorities for injury prevention studies and because of limitation of resources for injury prevention studies, it is suggested that effective and comprehensive studies be designated and funded.[49] Further studies, preferably randomized controlled trails of the effectiveness of football injury prevention interventional studies should be undertaken as they provide the most valuable and valid data. Finally, too many conferences in the field of sports medicine, especially on prevention of football injury should be established and organized worldwide.

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